

Claims:

1. A combined bearing comprising:

a cylindrical main body defining an axial hole and a first cutout therein, the axial hole spanning along an axis of the cylindrical main body for receiving a shaft therein, the first cutout spanning from an outer surface of the cylindrical main body to the axial hole; and

a first mating member, which has a same configuration as the first cutout and is inserted into the first cutout; wherein

the first mating member comprises an inner curved surface having a same radius of curvature as that of the axial hole and an outer curved surface having a same radius of curvature as that of the outer surface of the cylindrical main body, one of the main body and the first mating member comprising ceramic material, and the other of the main body and the first mating member comprising metal alloy.

2. The combined bearing as described in claim 1, wherein the ceramic material comprises aluminum oxide or silicon oxide.

3. The combined bearing as described in claim 1, wherein the metal alloy comprises an iron-copper based alloy.

4. The combined bearing as described in claim 1, wherein the first cutout is

arcuate.

5. The combined bearing as described in claim 4, wherein the first cutout is semi-cylindrical.
6. The combined bearing as described in claim 1, wherein the cylindrical main body defines a second cutout spanning from the outer surface of the cylindrical main body to the axial hole, a second mating member having a same configuration as the second cutout is inserted into the second cutout.
7. The combined bearing as described in claim 6, wherein the second mating member is made of a same material as the first mating member.
8. The combined bearing as described in claim 6, wherein the first cutout and the second cutout are defined at opposite sides of the axial hole.
9. The combined bearing as described in claim 8, wherein the first cutout and the second cutout are symmetrically opposite to each other.
10. The combined bearing as described in claim 8, wherein the first cutout and the second cutout are offset from each other with respect to an axial direction of the cylindrical main body.
11. The combined bearing as described in claim 6, wherein the first cutout and the second cutout are defined at a same side of the axial hole and are offset from each other with respect to an axial direction of the cylindrical main body.

12. The combined bearing as described in claim 1, wherein the cylindrical main body defines an inner cylindrical surface at the axial hole, and the inner cylindrical surface cooperates with the inner curved surface of the first mating member to provide a complete bearing surface for bearing the shaft received in the axial hole.

13. The combined bearing as described in claim 6, wherein the second mating member comprises an inner curved surface having the same radius of curvature as that of the axial hole and an outer curved surface having the same radius of curvature as that of the outer surface of the cylindrical main body.

14. A combined bearing comprising:

a cylindrical main body defining an axial hole with therein a plurality of cutouts at different axial positions, each of said cutouts radially extending through said main body with a range around 180 degrees; and

a plurality of mating members compliantly received in the corresponding cutouts, respectively, each of said mating members defining an inner curved surface conformable to said axial hole and an outer curved surface conformable to an exterior surface of said main body; wherein

at least one of said main body and said mating members is made of ceramic material while the rest are made of metal alloy.